ICF-C610

SERVICE MANUAL

US Model
Canadian Model
AEP Model
E Model
Australian Model

SPECIFICATIONS

Radio section

Frequency range:
US, Canadian, E model:
FM: 87.6—108MHz, AM: 530—1,610kHz
AEP, Australian model:
FM: 87.6—107.5MHz, AM: 531—1,602kHz
Italian model:
FM: 87.5—108MHz, AM: 526.5—1,606.5kHz

Tape player section and general

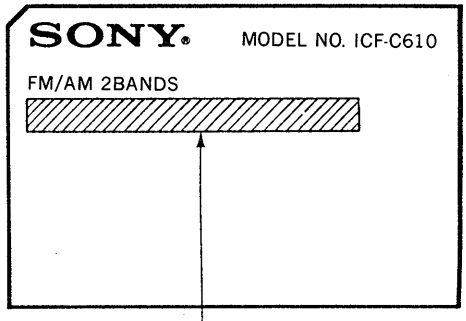
Track system: 2-track, 1-channel, monaural
Frequency response: 50 Hz – 10,000 Hz with normal (TYPE I) tapes
Speaker: Approx. 7.7 cm (3 inches) dia.
Power output:
Radio section: 360 mW (at 10 % harmonic distortion)
Player section: 300 mW (at 10 % harmonic distortion)
Power requirements: US, Canadian, E model:
120V AC, 60Hz
AEP, Italian model:
220—230V AC, 50Hz
Australian model:
240V AC, 50Hz
For the power backup function: 9 V DC, one 6F22 battery
Battery life: Approx. 32 hours, using Sony battery S-006P(U)
Dimensions: Approx. 254 × 128 × 101 mm (w/h/d) (10 × 5 × 4 inches) incl. projecting parts and controls
Mass: Approx. 1.3 kg (2 lb 14 oz) not incl. battery

Design and specifications subject to change without notice.

Model Name Using Similar Mechanism	ICF-C600
Tape Transport Mechanism Type	MF-C600

MODEL IDENTIFICATION

—Model Number Label—



US, Canadian, E model: AC: 120V~60Hz 5W
AEP, Italian model : AC: 220—230V~50Hz 5W
Australian model : AC: 240V~50Hz 5W

Features

- Wake up to your favorite music tape
- Dual alarm
- Date display
- Forward/reverse time setting

FM/AM CASSETTE PLAYER CLOCK RADIO

SONY®

SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

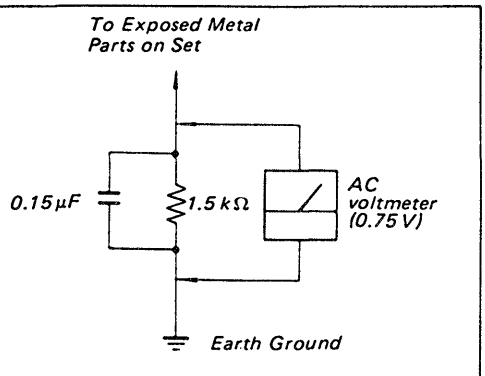


Fig. A. Using an AC voltmeter to check AC leakage.

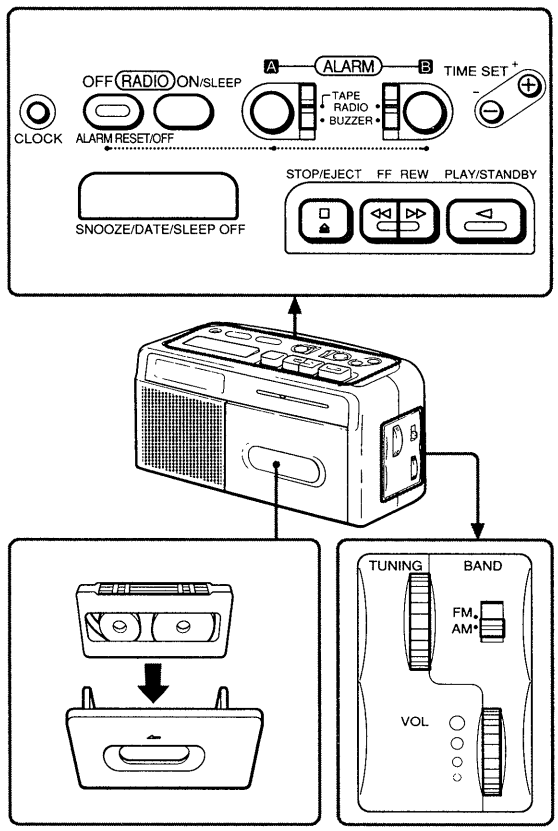
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
GENERAL



Installing the Battery

To keep good time, your Dream Machine needs one 6F22 battery (not supplied), in addition to house current. The battery keeps the clock operating in the event of a power interruption. Before setting the time on your Dream Machine, open the lid at the bottom of the unit, install the battery with correct polarity and then close the lid.

- After a power interruption, the displayed time may not be always correct (it may gain or lose about 10 minutes per hour).

Knowing When to Replace the Battery

To check battery power, unplug the power cord from the wall outlet and plug it in again after a few minutes. If the displayed time is incorrect, replace the battery with a new one.

Setting the Clock and the Date

Setting the Clock

1. Plug in the unit.
   The display will flash "AM 12:00" or "0:00".
2. While holding down **CLOCK**, press either **+** or **–** under **TIME SET** till the correct time appears in the display. When you release **CLOCK**, the clock begins to operate.

- The clock system varies depending on the model you own.
  12-hour system: "AM 12:00" = midnight
  24-hour system: "0:00" = midnight
- To set the current time rapidly, keep pressing **CLOCK** and the **+** or **–** button together to advance or return to a time that is within a few minutes of the current time. Then press the **+** or **–** button to set the time to the current time.

Setting the Date

1. While holding down **SNOOZE/DATE/SLEEP OFF**, press either **+** or **–** under **TIME SET** till the correct date appears in the display. Then release **SNOOZE/DATE/SLEEP OFF**.

- To display the date, press **SNOOZE/DATE/SLEEP OFF**. The display returns to the current time when you release **SNOOZE/DATE/SLEEP OFF**.

Playing the Radio

1. Press **RADIO ON/SLEEP** to turn on the radio and adjust **VOL** (volume).
2. Select **FM** or **AM**, and tune in to a station using the **TUNING** dial.

- To turn off the radio, press **RADIO OFF/ALARM RESET/OFF**.
- To improve radio reception
  FM: Extend the FM wire antenna to improve FM reception.
  AM: Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built into the unit.

Playing Back a Tape

1. Press **RADIO OFF/ALARM RESET/OFF** to turn off the radio.
2. Press **STOP/EJECT** (⏏) to open the cassette holder and insert a recorded tape.
3. Depress **PLAY/STANDBY** (◀).
4. Adjust **VOL** (volume).

- To stop playback, press **STOP/EJECT** (⏏).
- To rewind the tape, press **REW** (▶▶).
- To advance the tape rapidly, press **FF** (◀◀).

Notes

- In fast-forward or rewind mode, the motor stops at the tape end. The locked button will automatically release
- While playing back a tape, do not set the tape alarm. If you set the tape alarm during playback, the tape being played back enters the pause mode.

Setting the Alarm

You can set the tape, radio or buzzer alarm to **ALARM A**, and radio or buzzer alarm to **ALARM B**.

- To set the tape alarm, first play back the desired tape as described in "Playing Back a Tape", adjust the volume and rewind the tape.
- To set the radio alarm, first tune in a station and adjust the volume.

1. Set the alarm time for tape, radio or buzzer.
   While holding down **ALARM A** or **B**, press either **+** or **–** under **TIME SET** till the desired time appears in the display. When you release **ALARM A** or **B**, the **ALARM A** or **B** indicator stops flashing and lights up, and the current time appears in the display.
2. Set the appropriate **ALARM** selector to the desired alarm position.
   For tape alarm, leave **PLAY/STANDBY** (◀) pressed.
   The tape, radio or buzzer will automatically sound at the preset time, and automatically turn itself off after 59 minutes, unless it is turned off manually.

- To turn off the alarm manually, press **RADIO OFF/ALARM RESET/OFF**. The alarm will come on at the preset time on the next day.
- To stop the tape, press **STOP/EJECT** (⏏).
- To cancel the alarm before the alarm time, while holding down **ALARM A** or **B**, press **RADIO OFF/ALARM RESET/OFF**.
- To check the preset time, press **ALARM A** or **B**.

Notes

- The buzzer sound level is fixed, and independent of the **VOL** (volume) control.
- You can set **ALARM A** and **ALARM B** at the same time. At the preset time, either the tape, radio or buzzer will sound depending on the set function to **ALARM A**, and either the radio or buzzer will sound depending on the set function to **ALARM B**.
- If you set **ALARM A** and **ALARM B** to the same desired time, only **ALARM A** will work.
- Even if you are listening to the radio, you can set the tape, radio or buzzer alarm.
- While you are listening to the tape, you can set only the buzzer alarm

To Doze for a Few More Minutes

1. Press **SNOOZE/DATE/SLEEP OFF**.
   The radio, tape or buzzer will shut off but will automatically come on again after about 6 minutes. You can repeat this process as many times as you like.

- You can reset the alarm time while activating the snooze function.

To Use Both Sleep Timer and Alarm Function

You can fall asleep to the radio sound and you will be awakened by the tape/radio/buzzer alarm at the preset time.

1. Set the alarm. (See "Setting the Alarm")
2. Set the sleep timer. (See "Setting the Sleep Timer")

Setting the Sleep Timer

Enjoy falling asleep to the radio using the built-in sleep timer that shuts off the radio automatically at a preset time.

1. Press **RADIO ON/SLEEP**.
   The radio turns on. It will go off after the preset time has passed. You can set the sleep timer of 90, 60, 45, 30 or 15 minutes.
   Every push changes the display as follows.

   Current time → On → 90 → 60 → 15 → 30 → 45 →

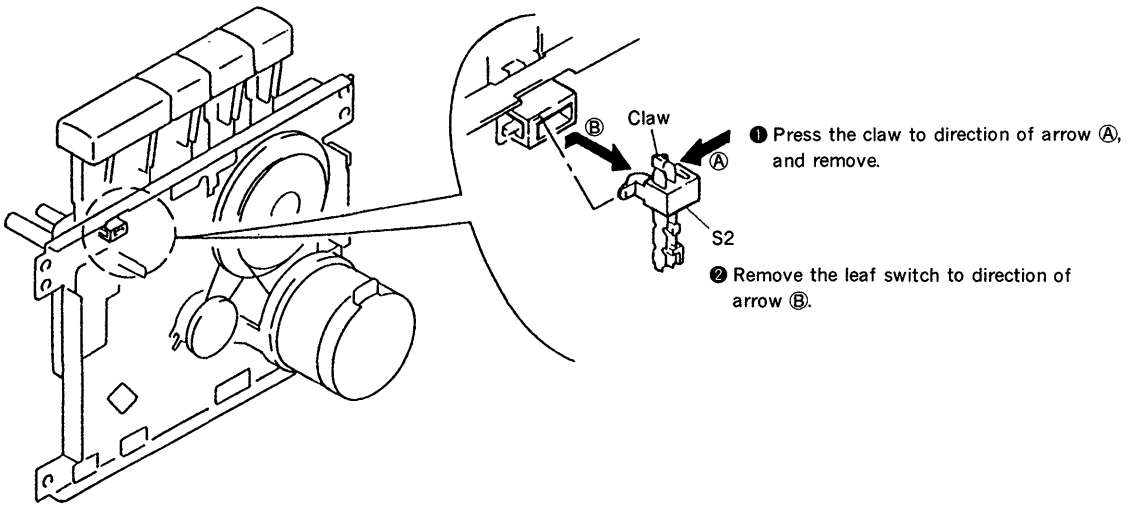
   The radio will play for the time you set, then shut off.

- To turn off the radio before the preset time, press **SNOOZE/DATE/SLEEP OFF**.
- To fall asleep to the tape sound, turn the radio off and play back a recorded tape.
  When it reaches its end, **PLAY/STANDBY** will release automatically.
  The tape playback time depends on the length of the tape.

SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

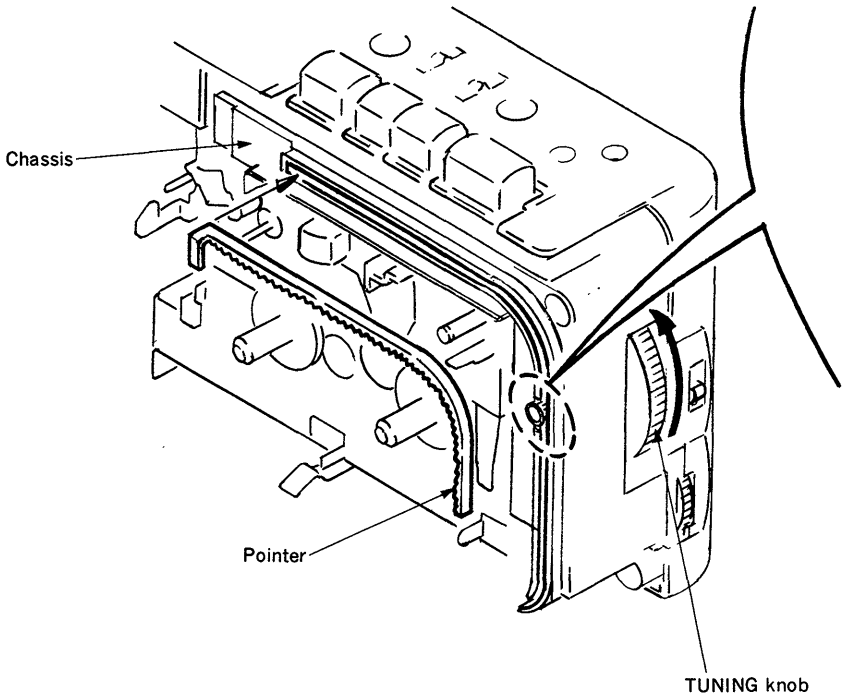
2-1. REMOVE THE LEAF SWITCH



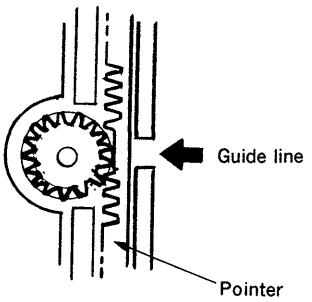
❶ Press the claw to direction of arrow Ⓐ, and remove.

❷ Remove the leaf switch to direction of arrow Ⓑ.

2-2. DIAL POINTER SETTING



❷ Align 1st indented part with guide line as illustrated.



❶ Turn TUNING knob fully counterclockwise.

SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head pinch roller
   capstan rubber belts
   idlers
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustment apply suitable locking compound to the parts adjusted.
5. The adjustment should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Meter Reading	Torque Meter
Forward	30-60g•cm (0.42-0.83oz•inch)	CQ-102C
Fast Forward and Rewind	55-140g•cm (0.76-1.94oz•inch)	CQ-201B
Back Tension	1-5g•cm (0.014-0.069oz•inch)	CQ-102C

SECTION 4
ELECTRICAL ADJUSTMENTS

4-1. TAPE RECORDER SECTION

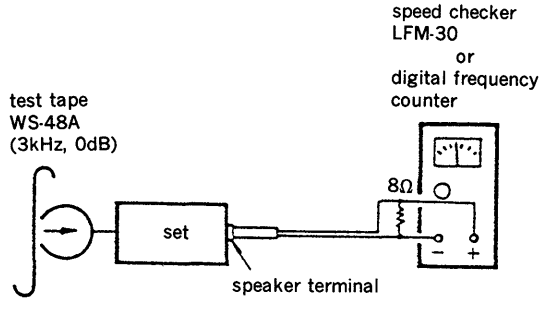
• Test Tape

Type	Signal	Used for
P-4-A063	6.3kHz, −10dB	head azimuth adjustment
WS-48A	3kHz, 0dB	tape speed adjustment

Tape Speed Adjustment

Setting:
VOL control: mechanical mid

Procedure:
1. Mode: playback

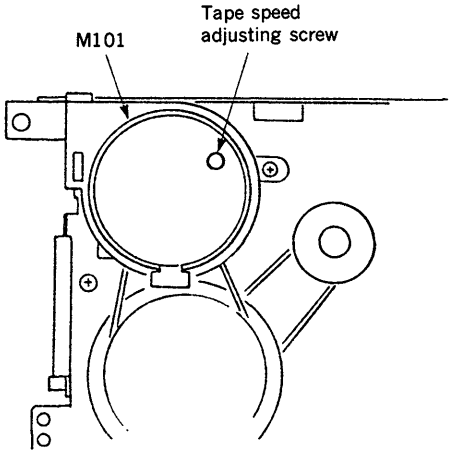


Adjustment Value:

Speed checker	Digital frequency counter
±3%	2,910 to 3,090Hz

Frequency difference between the beginning and the end of the tape should be witin 1% (30Hz).

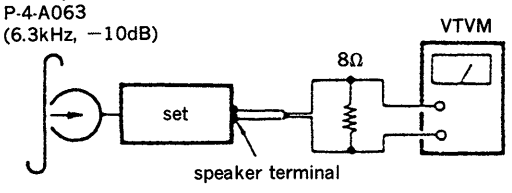
Adjustment Location:



Playback Head Azimuth Adjustment

Setting:
VOL control: mechanical mid

Procedure:
1. Mode: playback

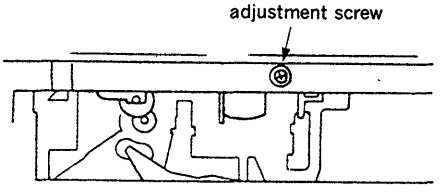


2. Turn the adjustment screw to obtain the maximum reading on VTVM.

Note: Several peaks may appear but take the maximum.

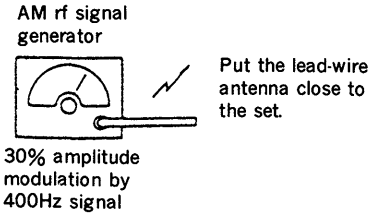
3. After the adjustment, lock the adjustment screw with suitable locking compound.

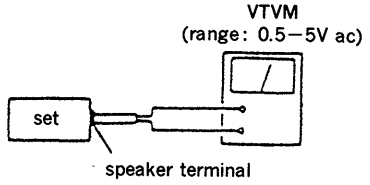
Adjustment Location:



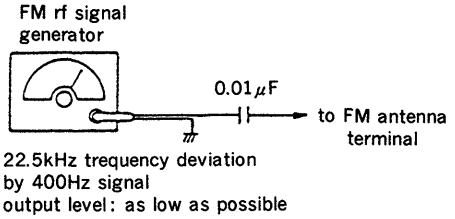
4-2. RADIO SECTION

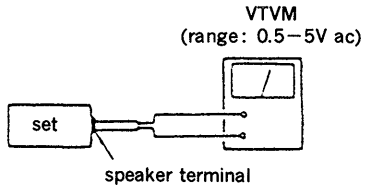
AM





FM


FM rf signal generator
0.01μF
to FM antenna terminal
22.5kHz trequency deviation by 400Hz signal
output level: as low as possible



- Repeat the procedures is each adjustment several times, and the requency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT
Adjust for a maximum reading on VTVM.
T1
455kHz

AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4	CT4
520kHz (516.5kHz)	1,750kHz (1,631.5kHz) 〈1,650kHz〉

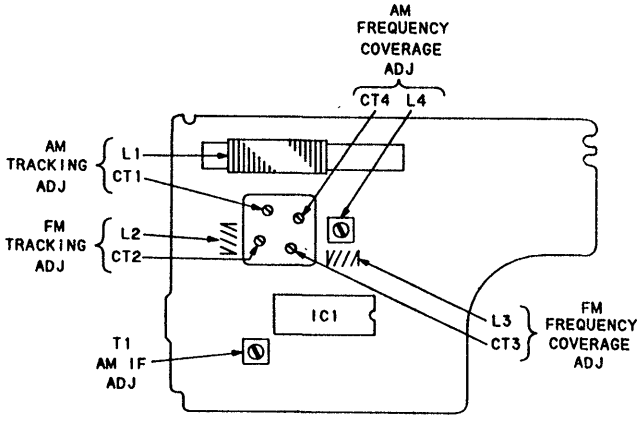
AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L1	CT1
680kHz	1,320kHz

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L3	CT3
86.5MHz 〔87.35MHz〕	109.5MHz (108.25MHz) 〈108.05MHz〉

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L2	CT2
86.5MHz 〔87.35MHz〕	109.5MHz (108.25MHz) 〈108.05MHz〉

( ): Italian model
〈 〉: AEP, Australian model
〔 〕: AEP, Italian, Australian model

Adjustment Location : radio board



SECTION 5
DIAGRAMS

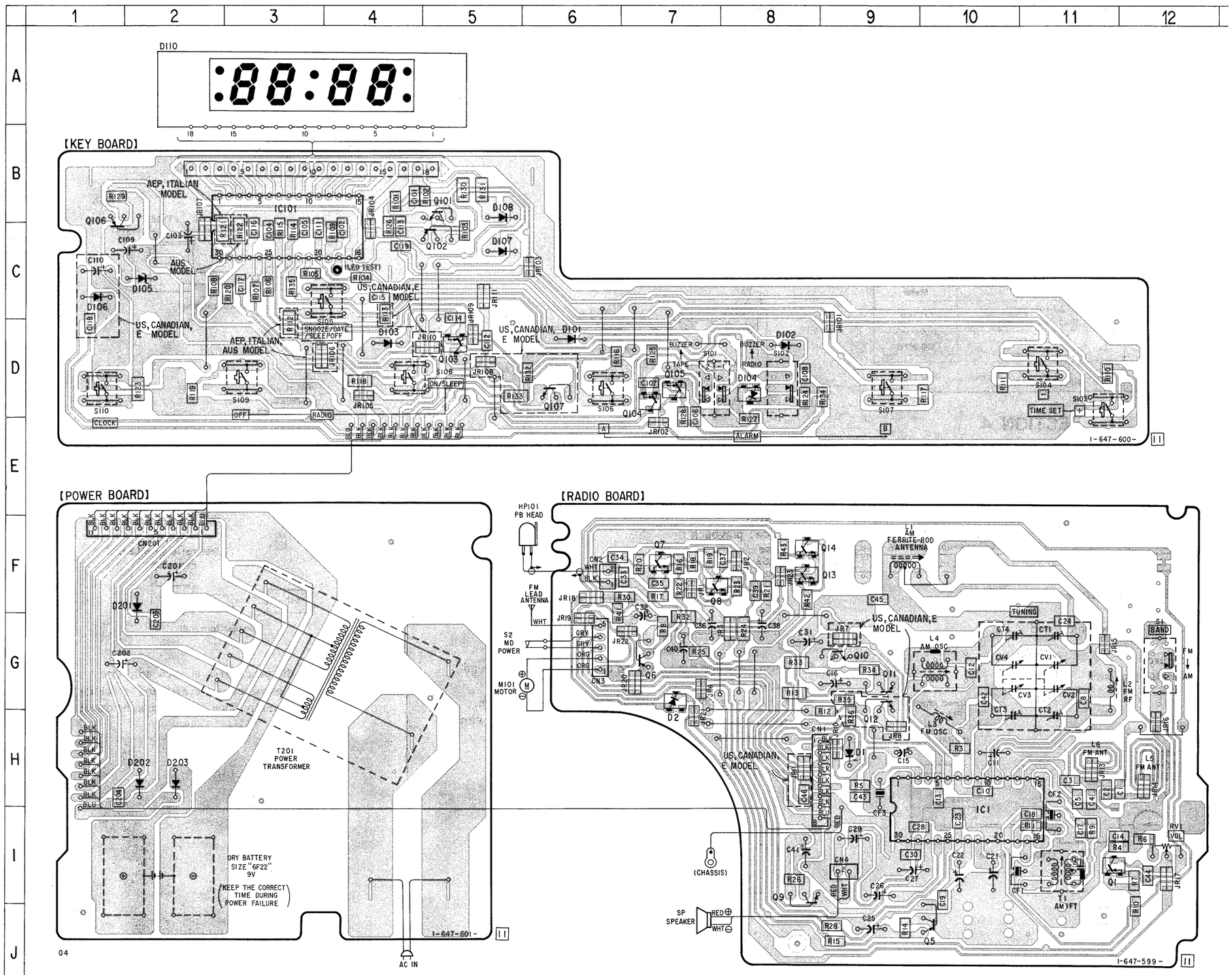
5-1. PRINTED WIRING BOARDS • Refer to page 12 for Semiconductor Lead Layouts.

• Semiconductor Location

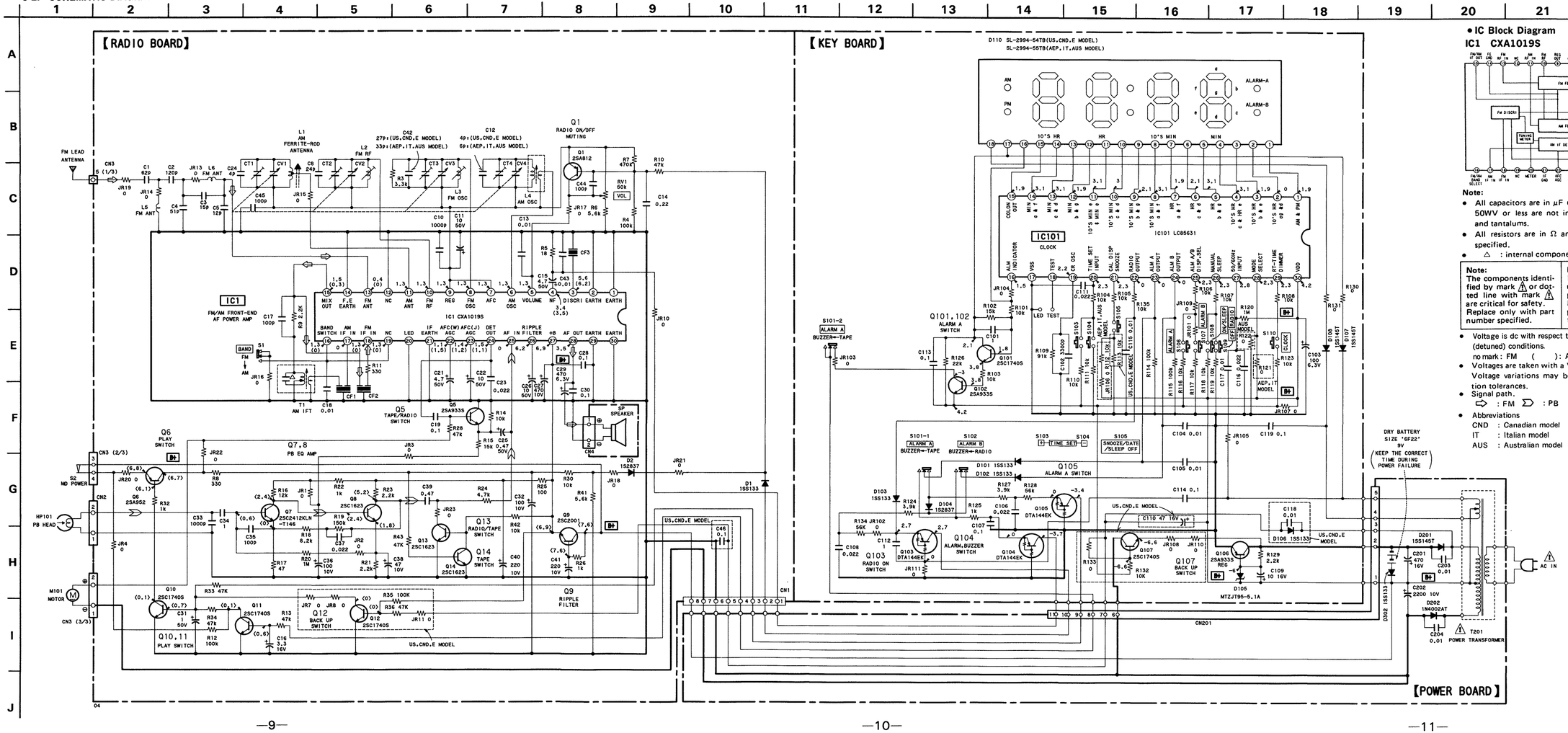
Ref. No.	Location
D1	H-9
D2	G-7
D101	D-6
D102	D-8
D103	D-4
D104	D-8
D105	C-2
D106	C-1
D107	C-5
D108	B-5
D110	A-2
D201	F-2
D202	H-2
D203	H-2
IC1	H-10
IC101	B-3
Q1	I-11
Q5	J-10
Q6	G-7
Q7	F-7
Q8	F-7
Q9	I-8
Q10	G-9
Q11	G-9
Q12	G-9
Q13	F-8
Q14	F-8
Q101	B-5
Q102	C-5
Q103	D-5
Q104	D-7
Q105	D-7
Q106	B-1
Q107	D-6

Note:

- ○——○ : parts extracted from the component side.
- ⬚ indicates side identified with part number.
- Abbreviation
  AUS : Australian model

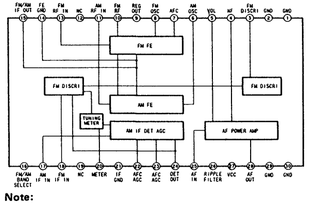


5-2. SCHEMATIC DIAGRAM



• IC Block Diagram

IC1 CXA1019S



Note:

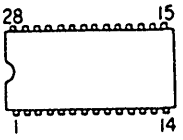
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.

Note:	**Note:**
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Voltage is dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM ( ): AM < >: PB
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM ⇦ : PB
- Abbreviations
  CND : Canadian model
  IT : Italian model
  AUS : Australian model

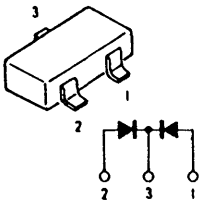
5-3. SEMICONDUCTOR LEAD LAYOUTS

CXA1019S

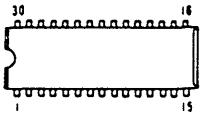


(TOPVIEW)

MA152WK

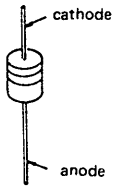


LC85631

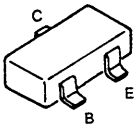


(TOP VIEW)

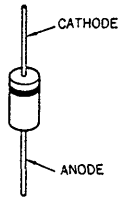
MTZJ-5.1A
1SS119



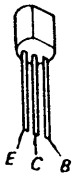
DTA144EK
2SA1162-G
2SC1623-L5L6
2SC2412KLN-T146



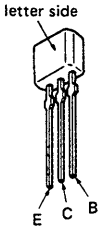
10E2



2SA952
2SC2001-K1K2



2SA1175-HFE
2SC2785-HFE



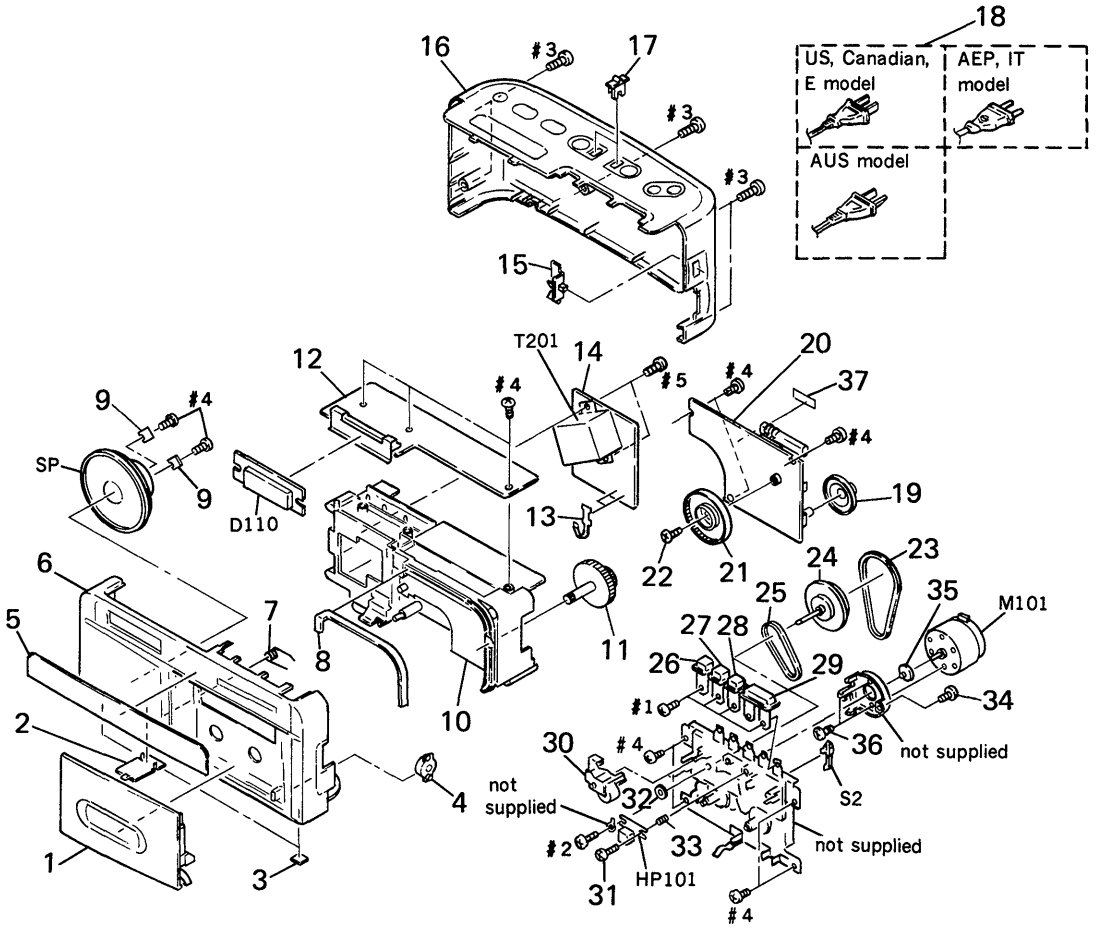
SECTION 6
EXPLODED VIEW

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Abbreviations
  IT : Italian model
  AUS : Australian model



Ref. No.	Part No.	Description	Remark
1	X-3366-503-1	LID ASSY, CASSETTE	
2	3-369-135-01	LID, BATTERY CASE	
3	3-368-852-01	FOOT	
4	3-343-248-01	DAMPER (P), SMALL	
5	3-385-664-01	PANEL (US, Canadian, E)	
5	3-385-664-11	PANEL (IT)	
5	3-385-664-31	PANEL (AEP)	
5	3-385-664-51	PANEL (AUS)	
6	3-385-661-01	CABINET (FRONT)	
7	3-902-031-01	SPRING, TORSION	
8	3-385-671-01	POINTER	
9	3-903-217-01	CLAW, SPEAKER	
* 10	3-385-663-01	CHASSIS	
11	3-385-667-01	KNOB (T)	
* 12	A-3679-493-A	KEY BOARD, COMPLETE (US, Canadian, E)	
* 12	A-3679-499-A	KEY BOARD, COMPLETE (AEP, IT)	
* 12	A-3679-526-A	KEY BOARD, COMPLETE (AUS)	
13	3-385-677-01	TERMINAL, BATTERY	
* 14	1-647-601-11	POWER BOARD	
15	3-385-668-01	KNOB (B)	
16	X-3366-502-1	CABINET (REAR) ASSY (US, Canadian, E)	
16	X-3366-860-1	CABINET (REAR) ASSY (AEP, IT)	
16	X-3367-336-1	CABINET (REAR) ASSY (AUS)	
17	3-385-669-01	KNOB (A)	
⚠18	1-555-795-00	CORD, POWER (AEP, IT)	
⚠18	1-696-008-11	CORD, POWER (US, Canadian)	
⚠18	1-558-566-21	CORD, POWER (E)	
⚠18	1-559-912-11	CORD, POWER (AUS)	

Ref. No.	Part No.	Description	Remark
19	3-382-175-21	KNOB (V)	
* 20	A-3661-769-A	RADIO BOARD, COMPLETE (US, Canadian, E)	
* 20	A-3661-792-A	RADIO BOARD, COMPLETE (AEP, IT, AUS)	
21	3-385-670-01	GEAR, VC	
22	3-725-329-11	SCREW, +B M2.6X6	
23	3-986-414-01	BELT, MAIN	
24	3-348-356-01	FLYWHEEL ASSY	
25	3-596-931-01	BELT, RF	
26	3-385-675-01	BUTTON (STOP)	
27	3-385-674-01	BUTTON (FF)	
28	3-385-673-01	BUTTON (REW)	
29	3-385-672-01	BUTTON (PLAY)	
30	3-986-417-01	ARM ASSY, PINCH ROLLER	
31	3-986-415-01	SCREW (M2X3), + BIND	
32	3-986-416-01	WASHER, POLY-SLIDER	
33	3-598-845-01	SPRING	
34	3-986-412-01	SCREW, MB COLOR	
35	3-986-413-01	PULLEY, MOTOR	
36	3-348-362-01	SCREW, M COLOR	
37	3-831-441-XX	CUSHION	
D110	1-810-027-11	DIODE SL-2994-54TB (US, Canadian, E)	
D110	1-810-027-21	DIODE SL-2994-55TB (AEP, IT, AUS)	
HP101	1-543-625-11	HEAD, MAGNETIC (PLAYBACK)	
M101	1-541-662-11	MOTOR, DC	
S2	1-571-745-11	SWITCH, LEAF (MD POWER)	
SP	1-544-140-21	SPEAKER	
⚠T201	1-423-683-11	TRANSFORMER, POWER (US, Canadian, E)	
⚠T201	1-423-701-11	TRANSFORMER, POWER (AEP, IT, AUS)	

SECTION 7
ELECTRICAL PARTS LIST

KEY

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Abbreviations
  IT : Italian model
  AUS : Australian model

Ref. No.	Part No.	Description			Remark
*	A-3679-493-A	KEY BOARD, COMPLETE (US, Canadian, E)			
*	A-3679-499-A	KEY BOARD, COMPLETE (AEP, IT)			
*	A-3679-526-A	KEY BOARD, COMPLETE (AUS)			
		**********			
	1-751-224-11	CORD, CONNECTION			
		< CAPACITOR >			
C101	1-164-346-11	CERAMIC CHIP	1uF		16V
C102	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C103	1-124-584-00	ELECT	100uF	20%	10V
C104	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C105	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C106	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C107	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C108	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C109	1-126-157-11	ELECT	10uF	20%	16V
C110	1-124-589-11	ELECT	47uF	20%	16V
		(US, Canadian, E)			
C111	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C112	1-164-346-11	CERAMIC CHIP	1uF		16V
C113	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C114	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C115	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C116	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C117	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C118	1-163-031-11	CERAMIC CHIP	0.01uF		50V
		(US, Canadian, E)			
C119	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< DIODE >			
D101-103					
	8-719-911-19	DIODE	1SS119		
D104	8-719-400-18	DIODE	MA152WK		
D105	8-719-921-42	DIODE	MTZJ-5.1A		
D106	8-719-911-19	DIODE	1SS119 (US, Canadian, E)		
D107	8-719-911-19	DIODE	1SS119		
D108	8-719-911-19	DIODE	1SS119		
D110	1-810-027-11	DIODE	SL-2994-54TB (US, Canadian, E)		
D110	1-810-027-21	DIODE	SL-2994-55TB (AEP, IT, AUS)		

Ref. No.	Part No.	Description			Remark
		< IC >			
IC101	8-759-095-52	IC	LC85631		
		< JUMPER RESISTOR >			
JR101-105					
	1-216-295-00	METAL CHIP	0	5%	1/10W
JR106	1-216-296-00	METAL CHIP	0	5%	1/8W
		(AEP, IT, AUS)			
JR107	1-216-296-00	METAL CHIP	0	5%	1/8W
JR108	1-216-295-00	METAL CHIP	0	5%	1/10W
		(US, Canadian, E)			
JR109	1-216-295-00	METAL CHIP	0	5%	1/10W
JR110	1-216-296-00	METAL CHIP	0	5%	1/8W
		(US, Canadian, E)			
JR111	1-216-296-00	METAL CHIP	0	5%	1/8W
		< TRANSISTOR >			
Q101	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q102	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q103-105					
	8-729-901-06	TRANSISTOR	DTA144EK		
Q106	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q107	8-729-119-78	TRANSISTOR	2SC2785-HFE (US, Canadian, E)		
		< RESISTOR >			
R101	1-216-073-00	METAL CHIP	10K	5%	1/10W
R102	1-216-077-00	METAL CHIP	15K	5%	1/10W
R103-108					
	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-096-00	METAL GLAZE	91K	5%	1/10W
R110	1-216-073-00	METAL CHIP	10K	5%	1/10W
R111	1-216-073-00	METAL CHIP	10K	5%	1/10W
R112	1-216-222-00	METAL GLAZE	10K	5%	1/8W
		(AEP, IT, AUS)			
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W
		(US, Canadian, E)			
R114	1-216-097-00	METAL CHIP	100K	5%	1/10W
R115	1-216-097-00	METAL CHIP	100K	5%	1/10W
R116	1-216-073-00	METAL CHIP	10K	5%	1/10W

KEY **POWER** **RADIO**

Ref. No.	Part No.	Description			Remark
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W
R118	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R119	1-216-073-00	METAL CHIP	10K	5%	1/10W
R120	1-216-121-00	METAL CHIP	1M	5%	1/10W
R121	1-216-296-00	METAL CHIP (AEP, IT)	0	5%	1/8W
R122	1-216-295-00	METAL CHIP	0	5%	1/10W (AUS)
R123	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R124	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R125	1-216-049-00	METAL CHIP	1K	5%	1/10W
R126	1-216-081-00	METAL CHIP	22K	5%	1/10W
R127	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R128	1-216-091-00	METAL CHIP	56K	5%	1/10W
R129	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R130	1-216-296-00	METAL CHIP	0	5%	1/8W
R131	1-216-296-00	METAL CHIP	0	5%	1/8W
R132	1-216-073-00	METAL CHIP (US, Canadian, E)	10K	5%	1/10W
R133	1-216-296-00	METAL CHIP (US, Canadian, E)	0	5%	1/8W
R134	1-216-091-00	METAL CHIP	56K	5%	1/10W
R135	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< SWITCH >			
S101	1-571-478-11	SWITCH, SLIDE (TAPE/BUZZER)			
S102	1-571-478-11	SWITCH, SLIDE (RADIO/BUZZER)			
S103	1-554-937-11	SWITCH, KEY BOARD (TIME SET +)			
S104	1-554-937-11	SWITCH, KEY BOARD (TIME SET -)			
S105	1-554-937-11	SWITCH, KEY BOARD (SNOOZE/DATE/SLEEP OFF)			
S106	1-554-937-11	SWITCH, KEY BOARD (ALARM A)			
S107	1-554-937-11	SWITCH, KEY BOARD (ALARM B)			
S108	1-554-937-11	SWITCH, KEY BOARD (RADIO ON/SLEEP)			
S109	1-554-937-11	SWITCH, KEY BOARD (RADIO OFF)			
S110	1-554-937-11	SWITCH, KEY BOARD (CLOCK)			
**********					
*	1-647-601-11	POWER BOARD			
		**********			
	1-751-223-11	CORD, CONNECTION			
*	1-535-771-11	TERMINAL (AEP, IT, AUS)			
	3-385-677-01	TERMINAL, BATTERY			
		< CAPACITOR >			
C201	1-126-103-11	ELECT	470uF	20%	16V
C202	1-124-893-11	ELECT	2200uF	20%	10V
C203	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C204	1-163-031-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
* CN201	1-750-661-11	SOCKET, CONNECTOR 11P			
		< DIODE >			
D201	8-719-911-19	DIODE 1SS119			
D202	8-719-200-02	DIODE 10E2			
D203	8-719-911-19	DIODE 1SS119			
		< TRANSFORMER >			
⚠T201	1-423-683-11	TRANSFORMER, POWER (US, Canadian, E)			
⚠T201	1-423-701-11	TRANSFORMER, POWER (AEP, IT, AUS)			
**********					
*	A-3661-769-A	RADIO BOARD, COMPLETE (US, Canadian, E)			
*	A-3661-792-A	RADIO BOARD, COMPLETE (AEP, IT, AUS)			
		**********			
		< CAPACITOR >			
C1	1-163-112-00	CERAMIC CHIP	62PF	5%	50V
C2	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C3	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C4	1-163-110-00	CERAMIC CHIP	51PF	5%	50V
C5	1-163-095-00	CERAMIC CHIP	12PF	5%	50V
C8	1-163-102-00	CERAMIC CHIP	24PF	5%	50V
C10	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C11	1-124-907-11	ELECT	10uF	20%	50V
C12	1-163-087-00	CERAMIC CHIP (US, Canadian, E)	4PF		50V
C12	1-163-089-00	CERAMIC CHIP (AEP, IT, AUS)	6PF		50V
C13	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C14	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C15	1-124-927-11	ELECT	4.7uF	20%	100V
C16	1-124-034-51	ELECT	33uF	20%	16V
C17	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C18	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C19	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C21	1-124-927-11	ELECT	4.7uF	20%	100V
C22	1-124-907-11	ELECT	10uF	20%	50V
C23	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C24	1-163-087-00	CERAMIC CHIP	4PF		50V
C25	1-124-902-00	ELECT	0.47uF	20%	50V
C26	1-124-907-11	ELECT	10uF	20%	50V
C27	1-124-472-11	ELECT	470uF	20%	10V
C28	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C29	1-124-472-11	ELECT	470uF	20%	10V
C30	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C31	1-124-903-11	ELECT	1uF	20%	50V
C32	1-124-443-00	ELECT	100uF	20%	10V

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
C33	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C34	1-164-346-11	CERAMIC CHIP	1uF		16V
C35	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C36	1-124-443-00	ELECT	100uF	20%	10V
C37	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C38	1-124-126-00	ELECT	47uF	20%	10V
C39	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C40	1-126-176-11	ELECT	220uF	20%	10V
C41	1-126-176-11	ELECT	220uF	20%	10V
C42	1-163-103-00	CERAMIC CHIP (US, Canadian, E)	27PF	5%	50V
C42	1-163-105-00	CERAMIC CHIP (AEP, IT, AUS)	33PF	5%	50V
C43	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C44	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C45	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C46	1-163-038-00	CERAMIC CHIP (US, Canadian, E)	0.1uF		25V
		< FILTER >			
CF1	1-577-072-11	FILTER, CERAMIC			
CF2	1-567-097-61	FILTER, CERAMIC			
CF3	1-567-097-61	FILTER, CERAMIC			
		< CONNECTOR >			
* CN1	1-568-283-11	SOCKET, CONNECTOR 8P			
* CN2	1-691-573-11	PIN, CONNECTOR (PC BOARD) 2P			
* CN3	1-568-271-11	SOCKET, CONNECTOR 5P			
CN4	1-568-277-11	SOCKET, CONNECTOR 2P			
		< VARIABLE CAPACITOR >			
CT1-4 CV1-4	1-151-628-11	CAP, VARIABLE (TUNING)			
		< DIODE >			
D1	8-719-911-19	DIODE 1SS119			
D2	8-719-400-18	DIODE MA152WK			
		< IC >			
IC1	8-752-035-29	IC CXA1019S			
		< JUMPER RESISTOR >			
JR1	1-216-295-00	METAL CHIP	0	5%	1/10W
JR2	1-216-295-00	METAL CHIP	0	5%	1/10W
JR3	1-216-296-00	METAL CHIP	0	5%	1/8W
JR4	1-216-295-00	METAL CHIP	0	5%	1/10W
JR7	1-216-296-00	METAL CHIP (US, Canadian, E)	0	5%	1/8W
JR8	1-216-295-00	METAL CHIP (US, Canadian, E)	0	5%	1/10W
JR10	1-216-295-00	METAL CHIP	0	5%	1/10W
JR11	1-216-296-00	METAL CHIP (US, Canadian, E)	0	5%	1/8W
JR13	1-216-296-00	METAL CHIP	0	5%	1/8W
JR14	1-216-296-00	METAL CHIP	0	5%	1/8W
JR15	1-216-295-00	METAL CHIP	0	5%	1/10W
JR16	1-216-295-00	METAL CHIP	0	5%	1/10W
JR17	1-216-296-00	METAL CHIP	0	5%	1/8W
JR18	1-216-296-00	METAL CHIP	0	5%	1/8W
JR19	1-216-295-00	METAL CHIP	0	5%	1/10W
JR20	1-216-296-00	METAL CHIP	0	5%	1/8W
JR21-23	1-216-295-00	METAL CHIP	0	5%	1/10W
		< COIL >			
L1	1-402-413-21	ANTENNA, FERRITE-ROD (MW)			
* L2	1-422-624-11	COIL, AIR CORE			
L3	1-428-229-11	COIL, AIR CORE (US, Canadian, E)			
L3	1-406-425-11	COIL (AEP, IT, AUS)			
L4	1-406-028-00	COIL, OSC (MW)			
		< TRANSISTOR >			
Q1	8-729-216-22	TRANSISTOR 2SA1162-G			
Q5	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q6	8-729-195-23	TRANSISTOR 2SA952			
Q7	8-729-160-80	TRANSISTOR 2SC2412KLN-T146			
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q9	8-729-011-92	TRANSISTOR 2SC2001-K1K2			
Q10	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q11	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q12	8-729-119-78	TRANSISTOR 2SC2785-HFE (US, Canadian, E)			
Q13	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q14	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
		< RESISTOR >			
R3	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R4	1-216-097-00	METAL CHIP	100K	5%	1/10W
R5	1-216-007-00	METAL CHIP	18	5%	1/10W
R6	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R7	1-216-113-00	METAL CHIP	470K	5%	1/10W
R8	1-216-037-00	METAL CHIP	330	5%	1/10W
R9	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R10	1-216-089-00	METAL CHIP	47K	5%	1/10W
R11	1-216-037-00	METAL CHIP	330	5%	1/10W
R12	1-216-097-00	METAL CHIP	100K	5%	1/10W
R13	1-216-238-00	METAL GLAZE	47K	5%	1/8W
R14	1-216-073-00	METAL CHIP	10K	5%	1/10W

RADIO

Ref. No.	Part No.	Description			Remark
R15	1-216-077-00	METAL CHIP	15K	5%	1/10W
R16	1-216-075-00	METAL CHIP	12K	5%	1/10W
R17	1-216-017-00	METAL CHIP	47	5%	1/10W
R18	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R19	1-216-101-00	METAL CHIP	150K	5%	1/10W
R20	1-216-121-00	METAL CHIP	1M	5%	1/10W
R21	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R22	1-216-049-00	METAL CHIP	1K	5%	1/10W
R23	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R24	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R25	1-216-025-00	METAL CHIP	100	5%	1/10W
R26	1-216-049-00	METAL CHIP	1K	5%	1/10W
R28	1-216-089-00	METAL CHIP	47K	5%	1/10W
R30	1-216-073-00	METAL CHIP	10K	5%	1/10W
R32	1-216-198-00	METAL CHIP	1K	5%	1/8W
R33	1-216-238-00	METAL GLAZE	47K	5%	1/8W
R34	1-216-089-00	METAL CHIP	47K	5%	1/10W
R35	1-216-097-00	METAL CHIP (US, Canadian, E)	100K	5%	1/10W
R36	1-216-089-00	METAL CHIP (US, Canadian, E)	47K	5%	1/10W
R41	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R42	1-216-073-00	METAL CHIP	10K	5%	1/10W
R43	1-216-089-00	METAL CHIP	47K	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-241-586-11	RES, VAR, CARBON 50K (VOL)			
		< SWITCH >			
S1	1-571-478-11	SWITCH, SLIDE (BAND)			
		< TRANSFORMER >			
T1	1-404-341-00	TRANSFORMER, IF			

****

MISCELLANEOUS
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⚠18	1-555-795-00	CORD, POWER (AEP, IT)
⚠18	1-696-008-11	CORD, POWER (US, Canadian)
⚠18	1-558-566-21	CORD, POWER (E)
⚠18	1-559-912-11	CORD, POWER (AUS)
HP101	1-543-625-11	HEAD, MAGNETIC (PLAYBACK)
M101	1-541-662-11	MOTOR, DC
S2	1-571-745-11	SWITCH, LEAF (MD POWER)
SP	1-544-140-21	SPEAKER

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Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
*	3-388-376-01	INDIVIDUAL CARTON (US, E)	
	3-756-529-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, DUTCH) (Canadian, E, AUS)	
	3-756-529-21	MANUAL, INSTRUCTION (ENGLISH) (US)	
	3-756-529-41	MANUAL, INSTRUCTION (SPANISH, ITALIAN, PORTUGUESE) (AEP, IT)	
*	3-904-079-01	INDIVIDUAL CARTON (AEP, IT, AUS)	
*	3-904-081-01	INDIVIDUAL CARTON (Canadian)	

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HARDWARE LIST
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#1	7-621-255-10	SCREW +BVTT 2X3 (S)
#2	7-621-255-45	SCREW, TOTSU PWH 2X6
#3	7-685-154-19	SCREW +P 3X35 TYPE2 NON-SLIT
#4	7-685-646-79	SCREW +P 3X8 TYPE2 NON-SLIT
#5	7-685-648-79	SCREW +P 3X12 TYPE2 NON-SLIT

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

9-957-863-12

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Personal Telecommunication Group

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